



GRANGE PRIMARY SCHOOL

EYFS Maths Parent Workshop



AUTUMN 2
2023-24

AIMS FOR TODAY

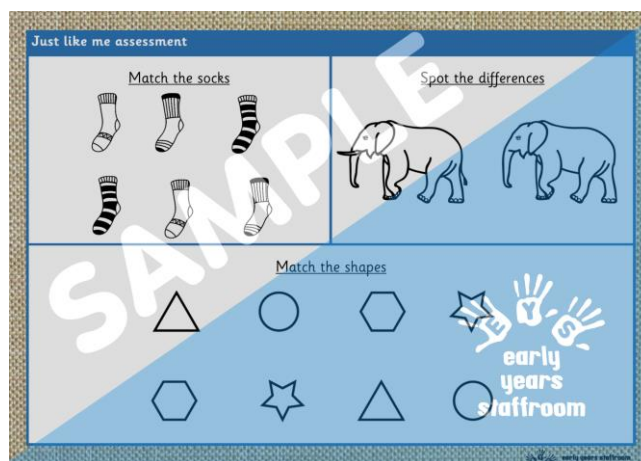
- ▶ Explain mathematics in Early Years
- ▶ To familiarise yourself with everyday mathematical language
- ▶ How simple objects around your house can have a huge impact on your child's learning
- ▶ The progression of mathematics teaching throughout Early Years
- ▶ How you can support your child at home



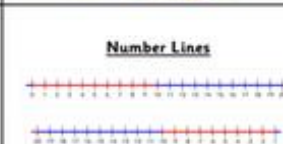
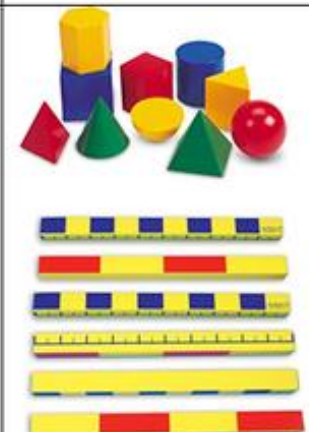
MATHS IS EVERYWHERE!



Mathematics at Grange

- ▶ At Grange, we are using White Rose style of teaching and learning. This style develops children's **fluency** before moving onto **reasoning** and **problem solving**.
- ▶ The Maths hub style of teaching at its core, recognises that by nurturing positive attitudes and building confidence in mathematics, all children can achieve.
- ▶ Concepts are built in small, logical steps and are explored through clear mathematical structures and representations.
- ▶ Children are taught together as a whole class and the focus is on depth - not acceleration - so that all children have a chance to embed learning.



Counters	
Dienes	
Number lines	
And other mathematical equipment	

whole new world sacrifice hard work
a class I neither love nor hate a mystery exhilarating like a sister compelling
Whoa so cool the universal language
what mu alpha theta spells key to success
complicated effort difficult love hate relationship everywhere
simplistic magical
MATH IS a puzzle
important
like a good friend
thousands of amaz
everything to me simple intimidating to me like flying is to a bird
critical thinking my favorite challenging every question has a definite answer
headaches the same in every language
interesting fun challenging in a good way useful
a constant in a world of variables
thinking like a relationship
requires work ethic patience and practice always the same an art form my achilles heel
never changing but very rewarding difficult at times satisfaction very easy class not so much





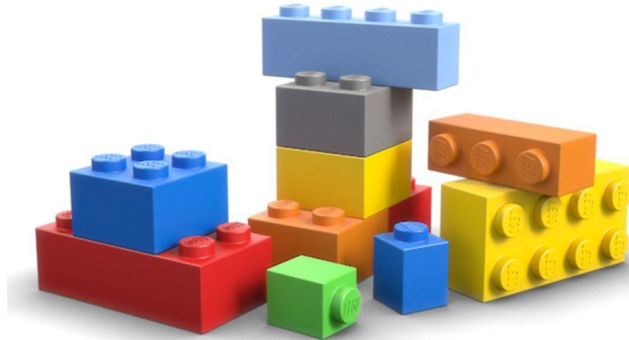


















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You do mathematics together every day!

WHEN YOU ARE:

- ▶ helping your child get dressed
 - ▶ Using the language of- first, next, then, finally
 - ▶ baking together
 - ▶ going to the shops
 - ▶ singing counting songs
 - ▶ building with blocks
 - ▶ practically every activity you do with your child involves maths.
-
- ▶ Shape- money- measurement- number- time

Everyday mathematical Language

- ▶ Quantities for cooking - whether you measure it or not. (Enough? Too much?)
- ▶ Fitting a flat pack together. (Does it fit? Do I need the long piece or the shorter one?)
- ▶ Sorting the washing. (Where are the matching sock? Are they the same or different?)





Progression through the Early Years



Number

Range 4

Comparison

Beginning to compare and recognise changes in numbers of things, using words like more, lots or 'same'

Counting

- Begins to say numbers in order, some of which are in the right order (ordinality)

Cardinality (How many?)

- In everyday situations, takes or gives two or three objects from a group
- Beginning to notice numerals (number symbols)
- Beginning to count on their fingers.

Range 5

Comparison

- Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same!

Counting

- May enjoy counting verbally as far as they can go
- Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5.
- Uses some number names and number language within play, and may show fascination with large numbers
- Begin to recognise numerals 0 to 10

Range 6

Comparison

- Uses number names and symbols when comparing numbers, showing interest in large numbers
- Estimates of numbers of things, showing understanding of relative size

Counting

- Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0
- Increasingly confident at putting numerals in order 0 to 10 (ordinality)



More, less lots, same, different, amount, counting in sequence, how many, ordering numerals

Number

Range 5

Cardinality

- Subitises one, two and three objects (without counting)
- Counts up to five items, recognising that the last number said represents the total counted
- Links numerals with amounts up to 5 and maybe beyond
- Explores using a range of their own marks and signs to which they ascribe mathematical meanings

Composition

- Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers
- Beginning to use understanding of number to solve practical problems in play and meaningful activities
- Beginning to recognise that each counting number is one more than the one before
- Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same

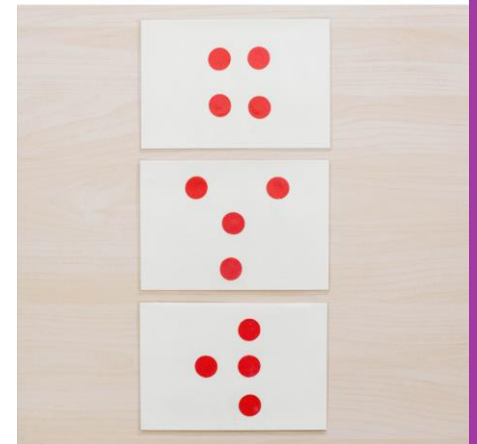
Range 6

Cardinality

- Engages in subitising numbers to four and maybe five
- Counts out up to 10 objects from a larger group
- Matches the numeral with a group of items to show how many there are (up to 10)

Composition

- Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects
- Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three
- In practical activities, adds one and subtracts one with numbers to 10
- Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-”



Subitising, counting the total, solving problems, matching numeral to amount

Spatial Awareness



Range 4	Range 5	Range 6
<ul style="list-style-type: none">• Moves their bodies and toys around objects and explores fitting into spaces• Begins to remember their way around familiar environments• Responds to some spatial and positional language• Explores how things look from different viewpoints including things that are near or far away	<ul style="list-style-type: none">• Responds to and uses language of position and direction• Predicts, moves and rotates objects to fit the space or create the shape they would like	<ul style="list-style-type: none">• Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints• Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)• May enjoy making simple maps of familiar and imaginative environments, with landmarks

Key language:

Under, over, on top, next to, behind, forwards, backwards, through, between, in, left, right



Shape

Range 4	Range 5	Range 6
<ul style="list-style-type: none">• Chooses puzzle pieces and tries to fit them in• Recognises that two objects have the same shape• Makes simple constructions	<ul style="list-style-type: none">• Chooses items based on their shape which are appropriate for the child's purpose• Responds to both informal language and common shape names• Shows awareness of shape similarities and differences between objects• Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes• Attempts to create arches and enclosures when building, using trial and improvement to select blocks	<ul style="list-style-type: none">• Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes• Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes• Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build



Key Questions:
What's the same?
What's different?

Puzzles, recognises common shapes, sorting shapes through similarities and differences

Pattern

Range 4	Range 5	Range 6
<ul style="list-style-type: none">• Joins in and anticipates repeated sound and action patterns• Is interested in what happens next using the pattern of everyday routines	<ul style="list-style-type: none">• Creates their own spatial patterns showing some organisation or regularity• Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC)• Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next	<ul style="list-style-type: none">• Spots patterns in the environment, beginning to identify the pattern “rule”• Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat

Key Questions:

What will happen next? (daily routine)

What comes next? (in a pattern)

Routines, patterns in the environment- animal print, clothes etc. simple action patterns, Simple AB repeating patterns or ABC, dance patterns,

Measure

Range 4	Range 5	Range 6
<ul style="list-style-type: none">• Explores differences in size, length, weight and capacity• Beginning to understand some talk about immediate past and future• Beginning to anticipate times of the day such as mealtimes or home time	<ul style="list-style-type: none">• In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items• Recalls a sequence of events in everyday life and stories	<ul style="list-style-type: none">• Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy• Becomes familiar with measuring tools in everyday experiences and play• Is increasingly able to order and sequence events using everyday language related to time• Beginning to experience measuring time with timers and calendars



Key Questions:

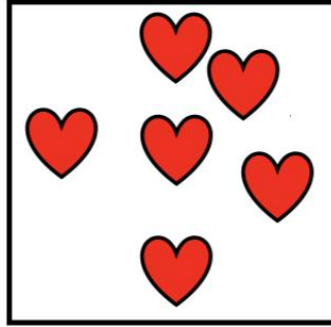
Which is longer/ shorter?
Heavier/ lighter?
More full/ less full?

Language of size- bigger, smaller, taller, shorter, longer, shorter, heavier, lighter
More, less, empty full, sequencing events in real life and in stories,

What *MATHS SKILLS* are we teaching?

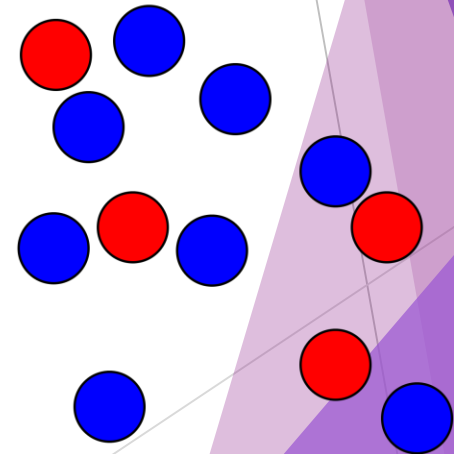
- ▶ Children developing their knowledge and understanding.
- ▶ Children coming up with their own solutions.
- ▶ Children explaining their reasoning.

UNDERSTANDING NUMBERS



- ▶ Understanding the concept of a number - eg. “what does 6 look like?”
- ▶ Comparing two groups
- ▶ Estimating amounts

- ▶ Number names- one, two, three etc.
- ▶ How many?
- ▶ Number order- Where does 2 go? How do you know?



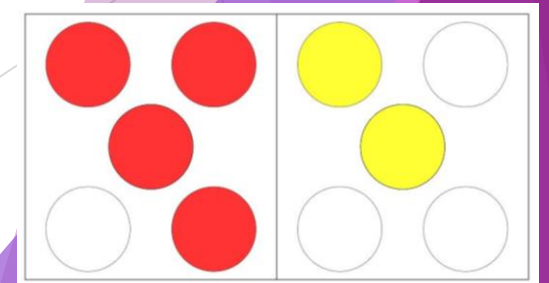
UNDERSTANDING COUNTING

- ▶ One number name for each item. - 'say one, touch one'
- ▶ The last number is 'how many'
- ▶ Not just things which can be touched can be counted (we can count actions, time etc)
- ▶ Subitising



UNDERSTANDING SIMPLE ADDITION

- ▶ Combine two groups
- ▶ Start practically
- ▶ 'Count on'



Things you can do at home



Steps and stairs

- ▶ Count together as you walk up and down stairs while you're out and about or when climbing the stairs to bed.
- ▶ Counting forwards and backwards- one more and one less.
- ▶ **Grouping and sorting objects** (blocks, buttons, lego etc)
 - ▶ “What’s the same, what’s different?”
 - ▶ “Why have you sorted them that way?”
 - ▶ “Could you have sorted the objects a different way?”



Mathematical language

- ▶ Mathematical language is all around children: “bigger”, “smaller”, “shorter”, “taller”, “greater than”, “less than”, “equal to,” “beside,” “above,” “below,” “heavy,” “light,” “same,” “different.”
- ▶ Using a variety of vocabulary helps children to develop understanding and have a wide range of language and gain more confidence in the process.



Encourage Spatial Reasoning



same/different,
beside, in front,
cylinder

Hiding or barrier games

Developing visualisation,
prediction and spatial language



upside down,
forwards,
next to
around

Small world play

Exploring relative position,
distances and transformation
(turning and flipping objects)



other way
round,
opposite,
reflection,
match

Pattern making

Exploring symmetry (reflection)



before
straight on,
between,
behind

Maps and models

Developing navigation and
understanding of scale by using and
creating simple maps and models



fit, turn,
twist,
corner

Puzzles

Understanding fit, composition
and decomposition, through
visualisation and discussion



between,
in front,
behind,
underneath,
same

Construction

Building constructions with
arches and enclosures
(perhaps linked to a story)

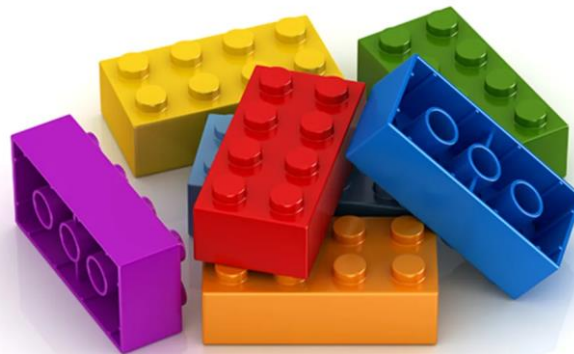


Spatial Talk with your children

- ▶ **When talking about shapes, go beyond labelling the shape. Talk about the defining features.**
 - “These are both *triangles*, because all triangles have *three sides* and *three angles*.”
- ▶ **Make the most of spatial activities such as block building and puzzle play by using spatial talk during the activities.**
 - “Let’s put the *big, wide* blocks on the *bottom*, and put the *small, narrow* blocks on the *top*.”
 - “I know this puzzle piece is a *corner* piece because it has two *straight* edges.”
- ▶ **Use spatial talk during activities your child loves.**
 - When your child is on the playground, describe her spatial location as she is on the go. “You went *over* the bridge, and now you are running *under* the monkey bars!”
 - Talk about space in the illustrations when you are reading books. “That giraffe is really *tall* and is standing *behind* a *high* fence.”
- ▶ **Use gestures such as pointing or tracing objects to help your child understand what the spatial words you are using mean.**
 - When you say “straight edge” move your finger along the edge to show your child what straight means.
- ▶ **Ask questions and play games to help your child talk about space and shapes.**
 - Ask your child to find shapes in the world and identify them. To help her learn to describe shapes, follow up by asking questions such as, “How do you know it’s a triangle?”



Objects to count





Numicon

- ▶ Great for number bonds, representing numbers, addition, subtraction, place value, shape, patterning.
- ▶ Multisensory which allows children to deepen their knowledge of fluency, reasoning and problem solving.



Supporting Maths at Home


- ▶ Door Numbers – Odd & even numbers, place value
- ▶ Playing Board Games – Place value and ordering
- ▶ Baking – Weighing, capacity, understanding scales
- ▶ Clocks & Time – Encourage children to wear a watch & tell the time
- ▶ Food for Counting & Fractions – Pasta shapes, pizza/cake fractions
- ▶ Purses & Wallets – Emptying your purse for children to recognise coins
- ▶ Rubik's Cubes, Puzzles & Toys – Get presents that challenge children
- ▶ Internet Activities - www.ictgames.com ,

, www.kidsmathgamesonline.com , [mathletics](#)



Questions?





Remember that while you are talking and playing with your child you are always developing their language and building their real-life experiences.

Talk to your children about what you are doing!